

## A B S T R A C T

A METHOD AND APPARATUS FOR DETECTING DEFECTS OF AT LEAST  
ONE ROTOR OF A ROTARY WING AIRCRAFT

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A method and apparatus for detecting the defects of  
at least one rotor of a rotary wing aircraft, in  
particular a helicopter, in order to adjust the rotor.  
In the method, in a preliminary step, a reference  
10 aircraft is used corresponding to a particular type of  
aircraft and having a rotor (6, 10) without defect and  
adjusted so that the level of vibration is at a minimum,  
a series of measurements are taken on the aircraft (1),  
and a neural network is deduced therefrom illustrating  
15 the relationships between accelerations representative of  
vibration, and defects, and adjustment parameters.  
Thereafter, in a later step, for a particular aircraft  
(1) of the same type, measurements are taken on the  
particular aircraft (1) and on the basis of said  
20 measurements and on the basis of the neural network, the  
defects, if any, are detected and values for the  
adjustment parameters are determined that will enable the  
level of vibration of the aircraft (1) to be minimized,  
which parameters are applied to the rotor (6, 10).

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35 Translation of the title and the abstract as published by the PCT Authorities,  
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48.3.